

Table 1. Pressures and temperatures associated with hydrate formation and decomposition for 5 settings of cold room temperature. Each designated "run" started with new deionized water. This same water was re-used during subsequent "subruns" within a "run". An X preceding a P reading indicated that hydrate failed to form at that pressure. This table corresponds to Figure 4 in the manuscript.

cold	hydrate formation					hydrate		
room	sub		pressure, bar			decomp.		
temp.	run	run				temp.	pressure	remarks
(°C)			prim.	sec.	tert.	(°C)	bar	
5.0-5.2	A	1	35.30			6.95	22.27	
		2		31.51		5.79	22.06	
		3			26.34	5.82	22.27	
		4			26.34	5.87	22.27	
		5			26.48	5.87	22.27	
		6			26.54	5.87	22.34	
		7			25.37	5.94	22.06	needle hydrated, fine bubbles
4.7-5.4	A	1	37.09			6.09	18.96	
		2		29.10		5.58	22.13	
		3			25.72	5.57	22.34	
		4			27.44	5.53	19.10	dehydrated needle
		5			25.85	5.50	13.79	dehydrated needle
		6			37.71	6.60	22.06	high P due to prior low P in decomposing hydrate; i.e. not a true tertiary subrun
	B	1	30.82			4.03	22.13	
			32.47		5.47	22.61	failed secondary (T change)	
				24.96	5.14	21.37	next morning	

Supplement Table 1 (contd.)

cold	hydrate formation					hydrate		
room	sub	pressure, bar			temp.	decomp.		
temp.	run	run				temp.	pressure	
(°C)			prim.	sec.	tert.	(°C)	bar	
							remarks	
4.7-5.4 (contd.)	C	1	35.92			5.37	22.55	changed CO ₂ cylinder
		2		25.03		5.47	-	
	D	1	X38.61			5.58	22.06	
		2		25.72		5.78	-	
	E	1	36.06			5.69	21.99	
		2		28.96		5.74	22.13	
		3			25.44	5.76	-	
	F	1	X38.27			6.18	22.20	
		2		27.99		5.78	22.20	
		3			25.65	5.78	22.06	
	G	1	X38.40			6.39	-	
		2		35.09		5.17	23.51	
		3			23.79	4.78	21.03	decomposition incomplete, tertiary data maybe invalid
.....								
3.4-3.9	A	1	X36.68			4.93	18.62	
		2		27.92		4.82	3.45	accidentally lost P
		3	24.20			4.23	18.62	formation P untrustworthy
		4		22.61		4.23	19.99	
		5			20.68	4.18	19.65	
	B	1	35.16			5.65	22.06	
		2		24.54		5.93	20.96	

Supplement Table 1 (contd.)

room	Hydrate formation					hydrate			
temp.	run	sub run	pressure, bar			temp.	decomp. pressure	remarks	
(° C)			prim.	sec.	tert.	(°C)	bar		
3.4-3.9 (contd.)	B	3			21.37	4.38	19.79		
		4			21.37	4.26	19.99		
		5			21.72	4.10	19.79		
		6			19.86	4.05	19.10		
	C	1	32.27				5.48	20.68	
		2		26.13			4.93	19.99	
		3			26.13		4.65	20.06	failed tertiary
		4			22.13		4.45	19.99	
		5			21.93		4.34	19.99	
		6			21.44		4.17	19.31	
.....									
1.7-2.2	A	1	X35.23				3.71	17.37	
		2		22.55			3.19	15.93	
		3			19.24		2.88	15.72	
		4			17.86		2.67	15.24	
		5			17.72		2.57	15.24	
		6			17.44		2.56	15.24	
		7			17.31		2.57	15.31	
		8			16.34		2.10	14.69	
		9			16.96		2.35	14.96	
		10			17.31		2.47	15.10	

Supplement Table 1 (contd.)

cold		hydrate formation				hydrate		
room		sub	pressure, bar			decomp.		
temp.	run	run				temp.	pressure	
(° C)			prim.	sec.	tert.	(°C)	bar	
1.7-2.2 (contd.)	B	1	26.89			3.71	17.65	
		2		17.92		2.91	16.06	
		3			16.48	2.23	14.89	
	C	1	26.41			3.72	17.79	
		2		20.27		3.23	17.10	reduced P to 13.79 to unclog needle
		3	27.51			2.74	14.69	
		4		16.75		2.44	14.48	
		5			16.89	2.44	15.10	failed tertiary
							
	-0.3-0.2	A	1	17.03			1.00	13.65
2				15.17		0.96	13.38	
3					14.75	0.98	13.24	
4					14.89	0.84	13.10	
5					14.55	0.87	12.89	
6					14.89	0.74	12.62	
7					14.48	0.94	12.82	
8					14.41	0.90	12.48	
9					15.24	0.91	12.20	
10					14.34	0.78	12.34	
11					13.79	0.66	11.86	

Supplement Table 1 (contd.)

cold		hydrate formation				hydrate		remarks
room		sub	pressure, bar			decomp.		
temp.	run	run	<hr/>			temp.	pressure	
(° C)			prim.	sec.	tert.	(°C)	bar	
-0.3-0.2 (contd.)	B	1	21.17			1.36	13.58	
		2		15.51		1.17	13.51	
		3			15.10	1.16	13.38	
		4			15.03	1.06	12.82	
		5			15.10	0.90	12.96	
		6			16.62	0.78	12.69	
		7			14.27	0.72	12.41	
		8			13.93	-0.03	11.24	
		9			13.10	0.15	11.72	
		10			13.51	0.33	12.00	
	C	1	22.82			1.86	14.34	
		2		16.34		1.62	13.72	
		3			17.72	1.46	13.10	failed tertiary
		4			13.72	-0.06	11.10	
		5			13.31	0.21	11.51	
		6			13.79	0.46	11.72	
		7			13.86	0.60	12.07	

Supplement Table 2. Relations between time, pressure and temperature for experiments performed in a bubbling reactor using gaseous CO₂ and deionized water. The data represent the control set for the Snomax series at cold room temperatures of 0 to 0.6 °C. Hydrate formation pressures are in boldface. Data correspond to Figure 5 in the manuscript.

primary run			sequence of tertiary runs								
(min)	(bar)	(°C)	(min)	(bar)	(°C)	(min)	(bar)	(°C)	(min)	(bar)	(°C)
0	0.0	0.03	0	12.1	0.67	0	11.0	0.08	0	10.3	-0.01
14	3.4	0.11	10	20.1	0.92	4	13.7	0.16	5	13.4	0.05
30	6.9	0.30									
40	10.3	0.47	0	11.6	0.66	0	11.3	0.16	0	11.7	-0.33
46	13.8	0.67	4	14.4	0.66	4	13.6	0.18	3	13.0	-0.28
56	17.2	0.71									
65	20.7	0.74	0	11.7	-0.03	0	11.5	0.21	0	11.2	-0.15
77	24.1	0.88	3	13.9	0.01	4	13.8	0.20	5	13.4	0.00
79	25.2	0.79									
			0	10.9	-0.04	0	11.7	0.23	0	11.7	0.60
secondary run			4	13.6	0.06	4	13.8	0.23	5	15.9	0.78
(min)	(bar)	(°C)									
0	12.1	0.67	0	11.0	0.03	0	11.5	0.27	0	11.6	0.17
5	15.2	0.77	4	13.7	0.15	4	13.7	0.26	4	14.1	0.21
8	17.2	0.78									
10	17.7	0.74	0	11.6	0.10	0	11.5	0.25	0	11.9	0.24
			4	13.9	0.19	5	13.9	0.30	5	13.9	0.28

Supplement Table 2 (contd.)

sequence of tertiary runs								
(min)	(bar)	(°C)	(min)	(bar)	(°C)	(min)	(bar)	(°C)
0	11.3	0.16	0	11.6	0.25	0	11.2	0.29
4	13.9	0.26	4	13.8	0.30	7	14.1	0.38
0	11.3	0.22	0	11.6	0.28	0	11.2	0.36
4	13.9	0.30	4	13.7	0.32	5	14.3	0.43
0	11.4	-0.07	0	11.5	-0.02	0	11.6	0.42
3	13.6	-0.08	4	13.8	0.01	5	14.4	0.48
0	11.4	-0.03	0	11.0	0.05	0	11.9	0.43
3	13.3	-0.02	4	13.7	0.07	9	14.5	0.50
0	11.4	0.02	0	11.3	-0.08	0	11.9	0.42
3	13.7	0.06	3	13.8	-0.05	5	14.3	0.50
0	11.3	0.05	0	10.8	-0.01	0	11.6	0.43
4	13.6	0.11	4	13.7	0.03	6	14.3	0.48

Supplement Table 3. Relations between time, pressure and temperature for experiments performed in a bubbling reactor using gaseous CO₂ and deionized water containing Snomax at 10 mg per liter. Cold room temperatures ranged from -0.1 to 0.6 °C. Hydrate formation pressures are in boldface. Data correspond to Figure 5 in the manuscript.

primary run			sequence of tertiary runs								
(min)	(bar)	(°C)	(min)	(bar)	(°C)	(min)	(bar)	(°C)	(min)	(bar)	(°C)
0	0.0	0.16	0	12.9	0.94	0	11.1	-0.04	0	11.8	-0.09
15	3.5	0.41	4	14.7	0.95	4	12.9	0.05	6	12.7	-0.02
30	6.9	0.76									
37	9.0	0.85	0	11.9	0.08	0	11.2	0.14	0	11.6	-0.12
40	10.3	0.94	5	13.2	0.19	5	13.1	0.11	4	13.2	-0.03
46	13.8	1.10									
56	17.2	1.25	0	11.8	0.20	0	11.2	0.14	0	10.5	-0.08
65	20.7	1.34	7	13.4	0.37	7	13.0	0.22	10	12.8	0.17
75	24.1	1.33									
82	27.6	1.39	0	11.7	0.34	0	11.8	-0.08	0	11.7	-0.10
93	31.0	1.31	4	13.7	0.41	7	12.8	0.02	8	12.8	0.05
103	32.9	1.12									
			0	12.7	0.37	0	11.8	0.04	0	11.2	0.07
			5	13.6	0.45	5	13.0	0.08	10	13.0	0.24
secondary run											
			0	11.6	0.41	0	11.5	0.10	0	11.7	-0.07
(min)	(bar)	(°C)	6	13.7	0.50	5	13.0	0.15	4	13.0	-0.03
0	12.4	1.27	0	11.9	0.52	0	11.7	0.14	0	11.7	-0.02
5	15.1	1.14	6	13.7	0.53	6	13.0	0.24	4	12.9	0.03

Supplement Table 3 (contd.)**sequence of tertiary runs**

(min)	(bar)	(°C)	(min)	(bar)	(°C)	(min)	(bar)	(°C)
0	11.7	-0.06	0	11.7	0.25	0	11.5	0.05
4	13.0	0.01	8	13.2	0.36	5	13.0	0.13
